Davis (B.B.)

A CONTRIBUTION TO THE SURGERY OF GASTROPTOSIS AND ENTEROPTOSIS.*

By BYRON B. DAVIS, M. D.,

OMAHA, NEB.,

SURGEON TO IMMANUEL HOSPITAL; PROFESSOR OF CLINICAL SURGERY, OMAHA MEDICAL COLLEGE.

Read before the Medical Society of the Missouri Valley, Council Bluffs, Ia., September 16, 1897.

The disease known severally as Glenard's disease, abdominal ptosis, prolapse of the abdominal viscera, and gastroptosis and enteroptosis has scarcely yet obtained the general recognition its importance deserves. The fact that Glenard found it present 400 times in 1,300 patients complaining of digestive disturbances, while Ewald found it in 13 per cent. of his cases, proves that it is not a rare malady. The pains and aches, the restlessness and insomnia, the malnutrition and tedious invalidism which the disease produces give it a dignity not to be ignored.

Many a poor woman has suffered for years with weakness and lack of all snap and endurance. She becomes easily tired, is always constipated, and her digestion is poor. Any acute illness is recovered from slowly. She is regarded as a neurasthenic of higher or lower degree; is usually looked upon as an uninteresting and tiresome hypochondriac. But if she always complains, it is because there is good cause for complaint. If she lacks energy, it is because the workshop in which the physical and mental force is elaborated is equipped with defective apparatus which cannot turn out a perfect product. What more natural than to suppose that the generative system is at fault. She often has endometritis, cervical and

*Reprinted from the Western Medical Review, Lincoln, Neb., October, 1897.

perineal tears, even ovarian and tubal disease in a mild form. Surgery directed toward the repair of these defects is anatomically successful, but symptomatically worse than useless. The gynecologist is perplexed, the patient discouraged. To find the reason for such failures, in the light of recent studies, one need not go far afield. The generative defects are often trivial coincidences, and are not the cause of the symptoms. Because a woman has headache and a pain in her stomach one has no right to jump to the conclusion that her torn cervix is the particeps criminis. Reflex troubles certainly exist, but the term "reflex pain" has latterly become as much a cloak to hide ignorance as are "rheumatism," "malaria," "neurasthenia," and "heart failure."

To make a diagnosis of gastroptosis the exact position of the stomach must be determined. If the lesser curvature is found half way or more from the ensiform cartilage to the umbilicus, no doubt can exist that prolapse, not only of the stomach, but of the intestines is present. In all these cases there is also decrease of abdominal tension. When the diagnosis is made the line of treatment laid down by Glenard seems rational. The intestines must be held up and the abdominal tension increased by an abdominal bandage. The diet must be in accordance with the needs as determined by chemical examination of the gastric contents. The bowels must be regulated, and electricity, massage, strychnia, and stomach lavage used. Medical and hygienic means must be exhausted before operative measures are to be thought of. Whether surgery will ever play an important role in gastroptosis and enteroptosis is uncertain. So few and recent are the cases thus far reported that there are not yet sufficient facts upon which to formulate an opinion. This much is certain: operation for the restoration of the displaced viscera seems rational; and, in the face of the pitiful condition of this class of sufferers, no mode of relief which offers hope should be neglected.

It seems proper that every case bearing upon this subject should be reported. Thus far, in all reports to which I have gained access, surgical measures have been limited to gastropexy and gastrorrhaphy. As will be seen, I have gone farther than this. Gastropexy has given place in my work to forming a new attachment for the lesser omentum, the natural ligament which supports the stomach. Shortening the mesentery has not before been attempted, and only a study of the results can determine its feasibility. The same can be said of shortening the gastro-colic omentum.

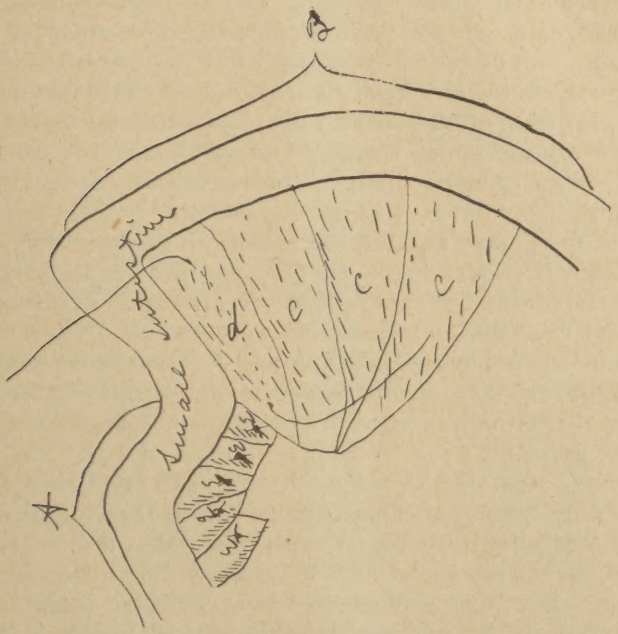
Case I.—Mr. E., farmer, single, aged 63 years, first presented himself in February, 1897. Was suffering from a very large abdominal hernia, extending from two inches above the umbilicus to the symphysis pubis. When he stood the recti muscles were separated for a distance of three or four inches, a large portion of the abdominal viscera being extruded. When recumbent the viscera were reduced and the skin covering the hernial sac could be invaginated into the abdominal cavity and the recti muscles grasped as easily as if the abdomen had been opened. The hernia made its appearance six or seven years ago, soon after a laparotomy for the removal of an omental or intestinal tumor—the nature of which I have been unable to learn. The incision was a large one, for the scar extends from midway between the ensiform and umbilicus to the pubes. He complains of severe pain in right umbilical region, supposed to be due to adhesions. In the erect position there is much discomfort from a sense of fullness in lower part of abdomen. He has also a left inguinal hernia the size of a goose-egg, which can only be reduced with difficulty. An attempt to cure both of the herniæ was decided upon, and the double operation was carried out at Immanuel Hospital, February 20, 1897, in the presence of the students of the Omaha Medical College. Nothing of special importance was discovered except the great descensus of the stomach and intestines; and, at the time, I stated that this would be a favorable case for

anchoring the stomach. Patient was discharged from the hospital in four weeks. Re-entered the hospital July 9, 1897. There has been no recurrence of the herniæ, but he complains bitterly of pain in the right umbilical region, where the old adhesions had been, they having re-formed. When in the recumbent position his abdomen looks flat and almost natural. But when standing the lower abdominal wall bulges in every direction, while above the umbilicus the cavity seems empty. The shape of the abdomen might be compared to that of half a pear with the large end down.

Without the knowledge gained at the previous operation, it would have been easy to make a diagnosis of gastroptosis and enteroptosis, with new adhesions. Being willing to submit to any treatment which offered any hope of relief, he was prepared in the usual way, and July 12, 1897, the following operation was carried out:

A median incision was made from near the ensiform cartilage to an inch below the umbilicus. The adherent omentum was first detached and a portion of it ligated and removed. Next the stomach was drawn up into its normal position and the lesser omentum near its reflection upon the stomach at its lesser curvature was fastened to the peritoneum near the ensiform cartilage by means of fine silk sutures. The stomach was not especially dilated, and gastorrhaphy was not performed. The transverse colon was fully six inches from the greater curvature, the gastro-colic omentum having been greatly stretched. A tuck was taken in the gastro-colic omentum, being careful to avoid the vessels, and not allowing the sutures to penetrate more deeply than through the anterior peritoneal layer of the omentum. This shortened the distance between the transverse colon and greater curvature to two to three inches. The small intestines were now brought forward and the mesentery found to be so much elongated that the loops of intestine could be raised four or five inches above the level of the abdom-

inal wall without undue tension. Beginning now near the upper end of the jejunum, a loop was brought forward. To shorten the mesentery without interference with the intestinal blood supply was the problem before me. The isosceles triangles, bounded at the base by the attached border of the intestine, and having for their sides the arteriæ intestini tenuis, branches of the superior mesenteric, were elongated, the distance from their apices to their bases being



A, Portion of intestine whose mesentery has been shortened.
B, Portion of intestine whose mesentery has not been shortened.
c, c, c, Triangles of mesentery not shortened.
d, Triangle with suture in place, but not tied.
e, e, e, Triangles shortened by suture.

from three to four inches. Anything might be done to shorten these triangles, if there was no interference with the circulation at their borders. Armed with a long, slender needle, carrying No. 4 silk, the needle was inserted near the apex of a triangle penetrating the mesentery in one direction and brought through

in the opposite direction at the center of the base near the attached border. The suture being drawn through, was tied, forming a reef in the mesentery at this point and shortening it from two to three inches. After several sutures had thus been introduced and tied in contiguous triangles, close examination showed that the circulation was unimpeded. Sutures were thus used the entire length of the small intestine, not in every interarterial space, but almost that closely. Between the upper jejunum and the ileo-cecal valve ninety-two sutures were employed. The mode of introduction of the sutures and what they accomplished can be best understood by a glance at the diagram.

The time of the entire operation was one hour and fifty minutes. No shock. Patient did well, with the exception of some pain in the region of the loosened adhesions. There was no distension. Bowels moved the third day. Was up the twentieth day, and left the hospital August 9, exactly four weeks from the day of the operation. It is still too early to ascertain the results. There is apparent improvement. The abdomen, when patient is standing, is much more nearly normal in contour, and he no longer has the distressing feeling of pressure in the lower abdomen that he had before.

Case II.—Mrs. P., aged 30 years, two children. For two or three years has been suffering from great distress after eating; also when she stands there is much downward pressure and bulging of the lower abdomen. She also sometimes, when changing from a reclining to the upright position, complains of a slipping feeling as if some of her abdominal viscera dropped downward. Constipation is obstinate, much headache, and is very nervous. Liver dullness is found to extend downward one and one-half inch. Lesser curvature is one inch above the umbilicus. Stomach empties itself promptly, proving absence of pyloric stenosis. Analysis of stomach contents removed one hour after the Ewald-Boas test breakfast about normal. Acidity was 60; HCl., present; lactic

acid, absent; propeptone, peptone, pepsin, and rennet ferment, present. This was the condition September 2, 1897, after having done a cervix and perineum operation five weeks before and having treated her during all that interval on the principle as laid down by Glenard. As there had been no improvement, and the patient was very solicitous to have something radical done, an operation to restore as far as possible the position of the viscera was decided upon.

Operation.—September 4, 1897, 9 A. M. The abdominal incision extended from near ensiform cartilage to an inch below the umbilicus. The stomach was found exactly as previously outlined, the liver somewhat enlarged. The lesser omentum, near its attachment to the lesser curvature, was stitched by means of No. 4 silk to the peritoneum on a level with the ensiform cartilage. The stomach, being considerably dilated, gastrorrhaphy was performed. This served the double purpose of reducing the size of the stomach and raising the transverse colon. As the gastro-colic omentum was not elongated, nothing was done with it.

Unlike Case I, the elongation of the mesentery had not resulted in enlarging the triangles near the attached borders. These triangles were so short that nothing could be accomplished by the method adopted in Case I. Shortening was accomplished by several silk sutures used like gathering stitches at the posterior part of the mesentery and only including one peritoneal surface. It seemed to accomplish the result without any interference with the circulation. Time of operation one hour. No shock. There was no distension and bowels moved, after using a laxative, the third day. Dressings were changed and sutures removed the ninth day. This is the thirteenth day, and if the patient were allowed she would have been up three or four days ago.

As all will recognize, the methods adopted by me are a wide departure from those hitherto practiced. In operations reported the stomach has been anchored into position by suturing it directly to the peritoneal

layer of the abdominal wall. Surgeons have frequently been called upon to liberate adhesions binding the stomach to the abdominal wall on account of the suffering caused. I should hesitate to produce artificially a condition which is so likely to be followed by pain. On the other hand, the lesser omentum is the natural ligament of the stomach, and if it is shortened or receives a new fastening, no unpleasant consequences would be expected to follow. The shortening of the round ligaments and ventro-fixation of the uterus are not exactly analogous conditions, for the regular gastric peristalsis would render gastropexy much more likely to result in disappointment than ventro-fixation or suspension of the uterus. Overstretching of the gastro-colic ligament is probably rare, but when it exists I can see no other method of raising the transverse colon to its normal position than taking a tuck in the ligament. Gastrorrhaphy, which seemed to accomplish its purpose perfectly in Case II, would still have left the transverse colon six inches from the greater curvature in Case I.

It has been shown by Glenard, Ewald, Einhorn, and others that in all cases in which gastroptosis is found, not only is there descensus of the transverse colon, but also elongation of the mesentery. It is probable that the stretching of the mesentery occurs coincidently with the descent of the colon and stomach, if it does not actually antedate the gastroptosis. Whichever order is followed in the first occurrence of the displacements there can be no question that when the stomach is anchored and gastrorrhaphy performed while the mesentery remains abnormally long, that the latter condition invites recurrence. On the other hand, when the mesentery is shortened in conjunction with the other operations, there would seem to be a chance for a permanent cure. But in either event, unless great care is used to eliminate the original factors which caused the disease, relapse is to be expected.